

What is claimed is:

1. A cell comprising: (i) a vector comprising a p66 subunit, a p51 subunit, and Vpr, wherein Vpr and p51 are expressed as a fusion protein; (ii) and a retrovirus proviral DNA.
2. A method of screening for a compound that inhibits viral reverse transcriptase comprising: a) contacting the cell of claim 1 with the compound, and b) comparing the level of viral infectivity in the presence of the compound with the level of viral infectivity in the absence of the compound, wherein a decreased level of infectivity in the presence of the compound indicates that the compound inhibits reverse transcriptase.
3. A method of screening for a compound that inhibits viral reverse transcriptase comprising: a) contacting the cell of claim 1 with a compound; and b) comparing the level of p66 in virus particles generated by the cell.
4. A method of screening for a compound that inhibits viral reverse transcriptase comprising: a) contacting the cell of claim 1 with a compound; and b) comparing the level of reverse transcriptase in virus particles generated by the cell.
5. The method of any one of claims 2-4, wherein the virus is a lentivirus.
6. The method of claim 5, wherein the virus is HIV-1.
7. The method of any one of claims 2-4, wherein the p51 and p66 subunits are expressed in trans in the cell.
8. The method of any one of claims 2-4, wherein the p51 and p66 subunits are expressed on different messenger RNAs.
9. The method of any one of claims 2-4, wherein the p51 and p66 subunits are expressed on the same messenger RNAs.
10. The method of any one of claims 2-4, wherein expression of Vpr-p51 incorporates p66 protein into viral particles.
11. The method of any one of claims 1-4, wherein p51 interacts with p66 protein.
12. The method of any one of claims 1-4, wherein p51 contains a mutation, insertion, or deletion.
13. The method of any one of claims 1-4, wherein p66 contains a mutation, insertion, or deletion.

14. The method of any one of claims 1-4, wherein the plasmid also expresses an internal ribosome entry site (IRES).
15. A method of screening for a compound that affects dimerization of a p66 subunit polypeptide of reverse transcriptase and a p51 subunit polypeptide of reverse transcriptase comprising: a) contacting the cell of claim 1 with the compound, and b) comparing the level of complex formation in the presence of the compound with the level of complex formation in the absence of the compound, a change in the level of complex formation indicating that the compound affects dimerization of the p66 subunit and a p51 subunit.
16. A method of screening for a compound that inhibits dimerization of a p66 subunit polypeptide of reverse transcriptase and a p51 subunit polypeptide of reverse transcriptase comprising: a) contacting the cell of claim 1 with the compound, and b) comparing the level of complex formation in the presence of the compound with the level of complex formation in the absence of the compound, a lower level of complex formation indicating that the compound inhibits dimerization of the p66 subunit and a p51 subunit.
17. A method of screening for a compound that enhances dimerization of a p66 subunit polypeptide of reverse transcriptase and a p51 subunit polypeptide of reverse transcriptase comprising: a) contacting the cell of claim 1 with the compound, and b) comparing the level of complex formation in the presence of the compound with the level of complex formation in the absence of the compound, a higher level of complex formation indicating that the compound enhances dimerization of the p66 subunit and a p51 subunit.
18. A method of making a pharmaceutical composition which comprises: a) determining whether a compound inhibits reverse transcriptase by the method of claim 2; and b) admixing the compound with a pharmaceutically acceptable carrier.
19. A method of inhibiting viral reverse transcriptase comprising contacting (1) the p51 subunit polypeptide, (2) the p66 subunit polypeptide, or (3) both the p51 subunit polypeptide and the p66 subunit polypeptide, with an effective amount of the compound identified by the method of claim 2, thereby inhibiting viral reverse transcriptase.

20. A method of inhibiting dimerization of a p51 subunit polypeptide of HIV-1 reverse transcriptase and a p66 subunit polypeptide of HIV-1 reverse transcriptase, which comprises contacting either (1) the p51 subunit polypeptide, (2) the p66 subunit polypeptide, or (3) both the p51 subunit polypeptide and the p66 subunit polypeptide, with an effective amount of the compound identified by the method of claim 16, thereby inhibiting dimerization of the p51 subunit polypeptide of HIV-1 reverse transcriptase and a p66 subunit polypeptide of HIV-1 reverse transcriptase.
21. A method of enhancing dimerization of a p51 subunit polypeptide of HIV-1 reverse transcriptase and a p66 subunit polypeptide of HIV-1 reverse transcriptase, which comprises contacting either (1) the p51 subunit polypeptide, (2) the p66 subunit polypeptide, or (3) both the p51 subunit polypeptide and the p66 subunit polypeptide, with an effective amount of the compound identified by the method of claim 17, thereby enhancing dimerization of the p51 subunit polypeptide of HIV-1 reverse transcriptase and a p66 subunit polypeptide of HIV-1 reverse transcriptase.
22. The method of claim 21, wherein the HIV-1 reverse transcriptase is present in a subject.
23. The method of claim 22, wherein the compound is administered to the subject orally, intravenously, subcutaneously, intramuscularly, topically or by liposome-mediated delivery.
24. A compound identified by the method of claim 2.
25. A compound identified by the method of claim 15.
26. A compound identified by the method of claim 16.
27. A composition which comprises the compound of claim 24 and a carrier.
28. The compound of claim 24, wherein the compound is capable of inhibiting HIV-1.
29. The compound of claim 28, wherein the compound is a nonnucleoside reverse transcriptase inhibitor.
30. An expression cassette comprising LTR-vpr-p51-IRES-p66.
31. The expression cassette of claim 30, wherein the nucleic acid comprises SEQ ID NO: 1.
32. The method of claim 2, wherein the HIV or SIV particles are derived by genes expressed in the cell and wherein the genes contain one or more nucleotide mutations.
33. A transgenic animal expressing vpr-p51/66.

34. A cell line comprising an exogenous nucleic acid, the nucleic acid comprising vpr-p51/66.
35. The cell line of claim 34, wherein the cell expresses viral nucleic acids.
36. The cell line of claim 34, wherein the cell can be induced to express viral nucleic acids by contacting the cell with a stimulus.